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EXAMINER
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KIM, JAMES JAY

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* ERIC D. STALEY, ALAN W. HAYMAN, and THOMAS A. SPIX

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Appeal 2015-003346  
Application 13/763,281  
Technology Center 3700

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Before JOHN C. KERINS, EDWARD A. BROWN, and  
LEE L. STEPINA, *Administrative Patent Judges*.

BROWN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Eric D. Staley et al. (Appellants) appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1–11 and 13–20.<sup>1</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

INVENTION

Appellants' disclosure "relates to internal combustion engines, and more particularly, to an engine assembly having a front cover with a dimpled surface that will attenuate panel resonances by radiating the sound waves in

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<sup>1</sup> Claim 12 has been cancelled. Appeal Br. 13 (Claims App.).

multiple directions.” Spec. ¶ 1. Claims 1 and 11 are independent claims.

Claim 1 is illustrative, and reads:

1. An engine assembly, comprising:  
a cylinder block defining a plurality of cylinders;  
a plurality of pistons disposed in said plurality of cylinders;  
a crankshaft drivingly attached to said plurality of pistons;  
a cover mounted to an end of said block and supporting a  
crankshaft seal around said crankshaft, said cover including a  
dimpled pattern in a surface adjacent the crankshaft seal.

Appeal Br. 12 (Claims App.).

### REJECTIONS

Claims 1, 3–7, 9–11, 13–17, 19, and 20 are rejected under 35 U.S.C. § 103(a) as unpatentable over Ogasawara (US 7,669,573 B2, issued Mar. 2, 2010) and Little (US 4,294,333, issued Oct. 13, 1981).

Claim 2 is rejected under 35 U.S.C. § 103(a) as unpatentable over Ogasawara, Little, and Neal (US 6,536,398 B2, issued Mar. 25, 2003).<sup>2</sup>

Claims 8 and 18 are rejected under 35 U.S.C. § 103(a) as unpatentable over Ogasawara, Little, and Somanath (US 7,594,405 B2, issued Sept. 29, 2009).<sup>3</sup>

### ANALYSIS

*Obviousness of claims 1, 3–7, 9–11, 13–17, 19, and 20*

*Claims 1, 3–7, 9, and 10*

The Examiner finds that Ogasawara discloses, *inter alia*, crankshaft 12 and a cover mounted to an end of the cylinder block and supporting a

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<sup>2</sup> The heading of this rejection lists “X,” but the discussion of the rejection makes clear that X is not applied in the rejection. Final Act. 9.

<sup>3</sup> The heading of this rejection also lists “X,” and, again, it is clear that X is not applied in the rejection. Final Act. 9–10.

crankshaft seal around crankshaft 12. Final Act. 2–3 (citing Ogasawara Figs. 4, 15). In the Advisory Action, the Examiner states that “*any element* that seals a crankshaft from the environment is a crankshaft seal.” Adv. Act. 2 (dated June 12, 2014, emphasis added). The Examiner determines that Ogasawara fails to disclose a dimpled pattern in a surface adjacent the crankshaft seal. The Examiner relies on Little to teach this feature. Final Act. 3.

Appellants contend that side cover 5 shown in Figures 3, 4, 14, and 15 of Ogasawara does not support a crankshaft seal around crankshaft 12, as claimed. Appeal Br. 5. Rather, Appellants contend, Figure 3 shows that the end of crankshaft 12 ends short of side cover 5. *Id.* Appellants also assert that Figure 3 shows that side cover 5 supports an inner portion 99b of flywheel magnet 99. *Id.* at 6 (citing Ogasawara col. 9, ll. 16–24). Appellants explain that as inner portion 99b is fixed to side cover 5 (*id.*), side cover 5 does not support a crankshaft seal around a crankshaft (*id.* at 6–7).

Appellants’ contentions are persuasive. The Examiner’s construction of the “crankshaft seal” limitation recited in claim 1 is unreasonably broad. Claim 1 calls for “a cover . . . *supporting* a crankshaft seal *around* said crankshaft.” (Emphasis added.) Paragraph 22 of the Specification describes Figure 1, stating that “[a] front cover 30 is provided for covering an end of the engine 10 and includes an opening 32 that receives *a crankshaft seal 28 that sealingly engages the crankshaft* as it extends from the engine assembly.” Figure 1 shows crankshaft 18 extending through crankshaft seal 28 such that crankshaft seal 28 physically *surrounds* crankshaft 18. Figure 2 shows an opening 32 in front cover 30 that supports a crankshaft seal in

sealing engagement with a crankshaft. *See* ¶ 23 (describing Fig. 2). Similarly, Figures 3, 4, and 5 show openings 132, 232, and 332 in front covers 130, 230, and 330, respectively. In view of the structures shown in Figures 1–5 and the supporting description in the Specification, we construe the claimed phrase “supporting a crankshaft seal around said crankshaft” to mean supporting a crankshaft seal that physically surrounds the crankshaft.

“Any element” that seals a crankshaft from the environment does not, as the Examiner appears to suggest, meet the requirements of claim 1. In the Examiner’s Answer, the Examiner states that claim 1 “includes a broad limitation wherein all engines are enclosed by a cover and engines that utilize *a crankshaft* will *typically have* a sealing element on one end to hold the crankshaft in place wherein the sealing element supports the crankshaft.” Ans. 2 (emphasis added). However, the Examiner provides no evidence to support this statement. Nor does the Examiner direct us to any disclosure in Ogasawara that side cover 5 actually supports a crankshaft seal around (i.e., physically surrounding) crankshaft 12, as required by claim 1. Accordingly, we do not sustain the rejection of claim 1, or dependent claims 3–7, 9, and 10, as unpatentable over Ogasawara and Little.

*Claims 11, 13–17, 19, and 20*

Claim 11 is directed to an engine front cover comprising “a cast plate-like body having a plurality of mounting apertures and *a hole supporting a crankshaft seal*, said cast plate-like body including a dimpled pattern in a surface adjacent the crankshaft seal.” Appeal Br. 13 (Claims App.). The Examiner finds that Ogasawara discloses the claimed cast plate-like body having a hole supporting a crankshaft seal. Final Act. 6.

The Examiner does not identify any disclosure in Ogasawara of “a hole supporting a crankshaft seal,” as claimed. Accordingly, we do not sustain the rejection of claim 11, or dependent claims 13–20, as unpatentable over Ogasawara and Little.

*Obviousness of claim 2*

Claim 2 recites that the cover is made from a cast plate. Appeal Br. 12 (Claims App.). The Examiner relies on Neal to teach this limitation. Final Act. 9. Accordingly, the Examiner’s application of Neal does not cure the deficiencies of the rejection of claim 1, and we do not sustain the rejection of claim 2 as unpatentable over Ogasawara, Little, and Neal.

*Obviousness of claims 8 and 18*

Claims 8 and 18 depend from claims 1 and 11, respectively, and further define the dimpled pattern. Appeal Br. 13–14 (Claims App.). The Examiner relies on Somanath to teach this limitation. Final Act. 9–10. Accordingly, the Examiner’s application of Somanath does not cure the deficiencies of the rejection of claims 1 and 11, and we do not sustain the rejection of claims 8 and 18 as unpatentable over Ogasawara, Little, and Somanath.

DECISION

We reverse the Examiner’s decision rejecting claims 1–11 and 13–20.

REVERSED